

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-12 are pending in this application. Claims 1, 8, and 12 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 8.

Drawings

Although the drawings filed on November 6, 2001 are accepted by the Examiner, applicant hereby submits a replacement drawing sheet for Figure 1, and asks that the replacement drawing sheet be accepted by the Examiner. The drawing has been modified to conform to the requirements of 37 C.F.R. § 1.84. No new subject matter has been added by way of the replacement of the drawing sheet.

Rejection under 35 U.S.C. § 102

Claims 1-7 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,787,262 (hereafter "Shakib"). Independent claims 1 and 12 have been amended to include the limitation "generating at least one change sequence number associated with a first replica, wherein the change sequence number is a tuple comprising: a timestamp, a sequence number, a replica identifier, and a subsequence number" and "generating a replica update vector comprising the change sequence number; communicating the replica update vector to a second replica; and determining the smallest set of updates to send using the replica update vector." Support for these amendments may be found, for example, on page 9 of the specification. Applicant respectfully asserts that no new subject matter has been added by way of this amendment. To the extent that the rejection still applies to the amended claims, the rejection is respectfully traversed.

For anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. With regard to claims 1 and 12, Applicant respectfully asserts that Shakib does not teach or

suggest generating a replica update vector, communicating the replica update vector to a second replica, or determining the smallest set of updates to send using the replica update vector.

Rather, Shakib teaches receiving copies of replica objects and determining a “winner” from those copies of replica objects. (*See, e.g.*, Shakib col. 9 ll. 15-20). Shakib further defines these replica objects to be “an object or group of objects which can be replicated. This term includes at least individual data objects and data set properties.” (*See, e.g.*, Shakib col. 4 ll. 13-17). Thus, as Shakib teaches receiving copies of the replica objects and therefore requires transmittal of the data of the replica object and the data set properties in order to determine the “winner.” Shakib, therefore, does not teach or suggest determining the smallest (*i.e.*, minimal) set of updates to send using the replica update vector.

Further, Shakib does not disclose having a change sequence number associated with a replica. Specifically, Shakib does not disclose that a change sequence number is a tuple including a timestamp, a sequence number, a replica identifier, and a subsequence number. The change number disclosed in Shakib involves an identifier of the server that is concatenated with a counter. (*See, e.g.*, Shakib col. 4, ll. 11 – 12 and col. 12, ll. 32-60). The change number disclosed by Shakib does not include a replica identifier, Shakib does not teach or suggest the change sequence number as recited in amended claims 1 and 12.

In view of the above, Shakib does not support the rejection of amended claims 1 and 12. Accordingly dependent claims 2-7 are allowable for at least the same reasons. Withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US Pat No. 6, 360,266 (hereafter “Pettus”) in view of Shakib. Independent claim 8, has been amended to include the limitation “wherein the update resolution procedure utilizes a replica update vector to determine the smallest set of updates to communicate from the supplier server to the consumer server.” Support for this amendment may be found, for example, on page 9 of the specification. Applicant respectfully asserts that no new subject matter has been added by way of this amendment.

To the extent that the rejection still applies to the amended claims, the rejection is respectfully traversed.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. See, MPEP section 706.02(j).

The initial burden is on the Examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." See MPEP section 706.02(j). When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper.

With regards to claim 8, as shown above, Shakib does not teach or suggest determining the smallest set of updates to send using the replica update vector. Furthermore, as the Examiner conceded on page 14 of the Office Action dated February 9, 2005, that Pettus does not specifically teach an update resolution procedure used to detect and resolve update conflicts between consumer servers. Pettus only discloses the need for the procedure as a background to invention regarding client node obtaining remote services. Thus, Pettus does not teach or suggest having the update resolution procedure utilize a replica update vector to determine the smallest set of updates to communicate from the supplier server to the consumer server.

In view of the above, Pettus and Shakib, whether considered together or separately, do not support the rejection of amended claim 8. Accordingly, dependent claims 9-11 are allowable for at least the same reasons. Withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 13220/009001).

Dated: May 6, 2005

Respectfully submitted,

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Attachment: One replacement sheet

AMENDMENTS TO THE DRAWINGS

Applicant requests that the Examiner replace Figure 1 as originally filed with the enclosed replacement drawing sheet, which includes Figure 1. In Figure 1, some of the reference numbers have been removed to conform with the requirements of 37 C.F.R. § 1.84. Furthermore, the sub-boxes of Portal Services, Communication Services, and Web, Application and Integration Services, have been removed in order to clarify the invention.

Attachment: One replacement sheet